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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/593,102

09/15/2006

Yozo Uchida

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EXAMINER

ZHANG, YUANDA

ART UNIT

PAPER NUMBER

2828

MAIL DATE

DELIVERY MODE

11/05/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/593,102	Applicant(s) UCHIDA ET AL.	
	Examiner YUANDA ZHANG	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-31, 40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-31, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/09 has been entered.

Response to Amendment

2. Amendment to claims 27 and 28 are acknowledged. The Applicant has argued that Onomura does not disclose or suggest that "the second electrode is formed away from both strip-direction ends of the ridge and away from both width-direction ends" because Fig. 4 of Onomura clearly shows that electrode pad 11 extends entirely up to both width-direction ends. The Examiner has found the argument persuasive and the previous rejections have been withdrawn.

Response to Arguments

3. Applicant's arguments with respect to claims 27-31 and 40-41 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claims 29 & 30 are objected to because of the following informalities: replace the limitation of "a width direction" with "a width-direction" in line 2. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Takagi (US Patent 5,684,816).

7. In re claim 27, with reference to figures 1(a) and 1(b), Takagi discloses a ridge stripe semiconductor laser device (100) comprising an active layer (8, col. 6 line 13), upper and lower clad layers (7 & 9, col. 6 lines 12-14) that sandwich the active layer therebetween, a stripe- shaped ridge (mesa stripe 12, col. 6 lines 16-17) formed in part of the upper clad layer, and a current block layer (4 & 5, col. 6 lines 17-19) that covers both sides of the stripe-shaped ridge other than a top face thereof, wherein a first electrode (evaporated Cr/Au film 2, col. 6 lines 22-24) is formed on an upper face of the semiconductor laser device, and a second electrode (plated Au electrode 1, col. 6 lines 24-25) is formed on the first electrode, wherein the first electrode is made thinner than the second electrode (evaporated Cr/Au film 2 has a thickness of 0.5 micron which is thinner than the 4 micron thick plated Au electrode 1, col. 6 lines 22-25), and is so formed as to extend to both stripe-direction ends of the ridge while covering at least an entire area of the top face thereof (evaporated Cr/Au 2 extends to both stripe-direction ends of the ridge from front facet 13 to rear facet 14, see figure 1), and wherein the second electrode is formed away from both stripe- direction ends of the ridge and away

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from both width-direction ends (plated Au electrode 1 is away from both stripe-direction ends and width-direction ends, see figure 1), the width-direction intersecting the stripe-direction of the ridge.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 28-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi (US Patent 5,684,816) in view of Yamada (US PG Pub 2004/0245534 A1).

11. In re claim 28, with reference to figures 1(a) and 1(b), Takagi has disclosed the claimed invention above except a plurality of ridge stripe semiconductor laser portion.

However, with reference to figure 2, Yamada discloses a plurality of ridge strip semiconductor laser portions (paragraph [0043]). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a plurality of ridge strip semiconductor portions, since it has been held that mere duplication of the

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essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

12. In re claims 29 & 30, Takagi has disclosed the claimed invention above except wherein a width-direction length of the first electrode is shorter than a width-direction length of the second electrode. However, with reference to figure 1, Yamada discloses a width-direction length of electrode 12 is shorter than a width-direction length of electrode 14 (see figure 1). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the second electrode of Takagi with the width-direction length shorter than the width-direction length of the first electrode as taught by Yamada in order to maximize current injection to the active region of the laser device.

13. In re claim 31, Yamada discloses wherein, between the plurality of semiconductor laser portions, a groove (trench 11) for electrically separating the semiconductor laser portions from each other is formed, and wherein the first electrode is formed away from the groove (The Examiner has interpreted the first electrode is formed away from the bottom of the groove, see figure 2) (paragraph [0043]).

14. Claim 40 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi (US Patent 5,684,816) in view of Onomura et al (US Patent 6,067,309).

15. In re claim 40, Takagi has disclosed the claimed invention above except wherein a film thickness of the first electrode is equal to or smaller than 100 nm. However, with reference to figure 4, Onomura et al disclose wherein a film thickness of the first

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electrode is equal to or smaller than 100 nm (the first electrode 10 has a thickness of 5 nm) (col. 6 lines 34-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the thickness of the first electrode of Takagi with a thickness of equal to or smaller than 100 nm in order to minimize electrical resistance, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 MPEP 2144.05 (II-A)

16. Claim 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takagi (US Patent 5,684,816) and Yamada (US PG Pub 2004/0245534 A1) as applied to claim 28 above, and further in view of Onomura et al (US Patent 6,067,309).

17. In re claim 41, Takagi / Yamada have disclosed the claimed invention above except wherein a film thickness of the first electrode is equal to or smaller than 100 nm. However, with reference to figure 4, Onomura et al disclose wherein a film thickness of the first electrode is equal to or smaller than 100 nm (the first electrode 10 has a thickness of 5 nm) (col. 6 lines 34-36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the thickness of the first electrode of Takagi / Yamada with a thickness of equal to or smaller than 100 nm in order to minimize electrical resistance, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233 MPEP 2144.05 (II-A)

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YUANDA ZHANG whose telephone number is (571)270-1439. The examiner can normally be reached on Monday-Friday, 9:00am-5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on 571-272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Yuanda Zhang/
Examiner, Art Unit 2828
10/29/09

/Minsun Harvey/
Supervisory Patent Examiner, Art Unit 2828